

Claims

- [c1] 1. A scanner having a light source with a self-collection capability, wherein the scanner is suitable for use in scanning a document, comprising:
an optical scanning chassis having a light source, wherein a tube of the light source at a tube wall is implemented with a total reflective material, wherein the total reflective material has an opening for emitting a light beam onto the document, where the light beam is a collected light from a scattered light; and
a transmission assembly for supplying a driving power to the optical scanning chassis to accomplish the scanning operation step by step.
- [c2] 2. The scanner of claim 1, wherein the total reflective material is coated on an outer wall of the tube of the light source.
- [c3] 3. The scanner of claim 1, wherein the total reflective material is coated on an inner wall of the tube of the light source.
- [c4] 4. The scanner of claim 1, further comprising a first auxiliary light source and a second auxiliary light source, wherein the first auxiliary light source and the second auxiliary light source also have the self-collection capability and are arranged at both sides of the light source separately.
- [c5] 5. The scanner of claim 4, further comprising a controlling circuitry, used for adjusting a light output intensity of the first and the second auxiliary light sources.
- [c6] 6. A scanner having a light source with a self-collection capability, wherein the scanner is suitable for use in scanning a document, comprising:
an optical scanning chassis, which includes a light source having a tube with a tube wall, wherein the tube wall includes a converging lens wall to collect scattered lights into a light beam and then emit the light beam out to the document; and
a transmission assembly for supplying a driving power to the optical scanning chassis to accomplish the scanning operation step by step.
- [c7] 7. The scanner of claim 6, further comprising a first auxiliary light source and a second auxiliary light source, wherein the first auxiliary light source and the

second auxiliary light source also have the self-collection capability and are disposed at both sides of the light source separately.

[c8] 8. The scanner of claim 7, further comprising a controlling circuitry, used for adjusting a light output intensity of the first and the second auxiliary light sources.

[c9] 9. A light source having a self-collection capability, wherein the light source is suitable for use in a scanner, the light source comprising:
a tube having a tube wall, wherein a total reflective material is implemented on the tube wall, and the total reflective material produces the self-collection capability and has an opening for emitting out a light beam after being collected; and
a plurality of electrodes, disposed at both sides of the tube.

[c10] 10. The light source of claim 9, wherein the total reflective material is coated on an outer side of the tube wall.

[c11] 11. The light source of claim 9, wherein the total reflective material is coated on interior side of the tube wall.

[c12] 12. A light source having a self-collection capability, wherein the light source is suitable for use in a scanner, comprising:
a tube having a tube wall formed as a converging lens for collecting scattered lights; and
a plurality of electrodes, disposed at both sides of the tube.